

The

November 2003

# Ballarat Naturalist



## Wetland Plants and Animals

### 25th Annual Stella Bedggood Memorial Lecture

**Speaker: Damien Cook, Wetland Ecologist**

After initially working for the National Trust Damien has developed his own business *Wetland Ecosystems*, providing expertise to government departments and City Councils. He advises on the revegetation of degraded wetlands and the establishment of new ones, has managed large wetland projects and has conducted workshops, given lectures and published articles. His business, which includes an aquatic plant nursery using waste water from the Carrum Sewage Plant, is located at Paterson Lakes.

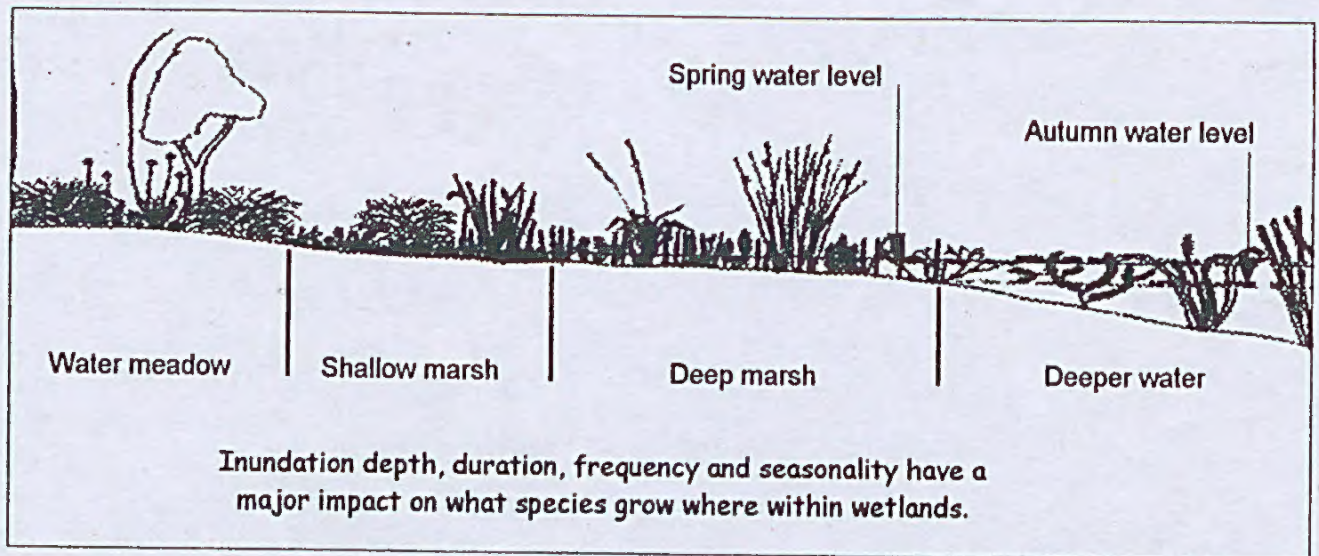
Damien began by explaining the need for wetlands—the "kidneys" of our environment which remove excess quantities of substances like nitrogen and phosphorus, the cause of algal blooms. At least 50% of our wetlands have been drained, perhaps 80% if you include small wet patches in paddocks. The term "wetland" does not necessarily mean permanent water; seasonally inundated or ephemeral areas are included.

Wetlands can be classified according to their depth and hydrological characteristics e.g. freshwater meadows having a depth of around 20cms and seasonally inundated. Some of these occur on basalt, a fertile substrate and have a particular plant association, while the same wetland on sandstone will be quite different. However, areas which are seasonally dry have a more varied set of plants due to the larger number of niches to be filled. Water meadows can have orchids such as *Diuris* sp., and together with other flowering plants can provide an ever-changing colour sequence. Damien illustrated these points with a series of slides plus overhead transparencies.

Many wetland plants have starchy tubers, enabling them to survive dry periods; such tubers were often bush tucker for the Aborigines.

Receding water triggers flowering and seed production, thus ensuring the survival of the species. So wetlands need shallow gradients, with catchments allowing water to fill them, and then allowing the water to be drawn down in summer. There is a tendency to design wetlands which remain full all year because it looks better, but this results in too simple a habitat with resulting poor biodiversity.

Wetlands are good for frogs such as the Spadefoot Toad, which can dig itself into the mud in dry weather using a "shovel" on its back foot. No mosquito fish (*Gambusia*), which eats frogspawn, can live in this type of habitat.



Shallow Marsh has deeper water  $\frac{1}{2}$ -1m deep and lasts from July to February. Running Marshflower, and Red Gums characterise such areas and near Horsham provide habitat for the Red-tailed Black Cockatoo. These trees may have deep scars on them—perhaps they're canoe trees, utilised by the Aborigines, which may be 600-700 years old and provide habitat for barn owls, geckos, possums etc. Dead trees are used as perches for Darters and cormorants.

Deep Marsh 1-1½m deep, and nearly permanent water, will have Tall Spike Rush, Running Marshflower, Water Ribbons and Water Milfoil (such as we have on Lake Wendouree). Creatures may include the Growling Grass Frog, or the Striped Marsh Frog, which begin breeding in November. Coots and Swans get protein from the various waterplants as well as the usual vitamins and minerals expected from such 'greens'.

Along drainage lines in the basalt a series of clearly defined plant zones exists, from the drier higher terraces supporting *Poa lab.*, to freshwater meadow with Saltgrass. Why salt? Mineral salts leach out of the basalt. Then the deeper water contains Water Ribbons. In water with high nutrient content there will be species of floating plants such as *Azolla* sp.. Bladderworts—*Utricularia* sp. such as Fairies' Aprons may be present; they are carnivorous. The bladder has a trigger which is tripped and insects are sucked in due to a vacuum in the cells.

Damien showed us illustrations of projects which his company has been involved with such as the re-establishment of wetlands at Carrum which was originally drained in 1874. Such is the change in the perceived value of wetlands that house blocks with frontages or views over the wetlands command high prices. What a change from the perception of mosquito-ridden useless swamp!

So these projects aim to provide storm water treatment, improve the aesthetics of an area and create habitat—all of which we can see in our own North Gardens Wetland and Paul's Drain being completed in Dowling Street.

Readers wishing to pursue the progress of Damien's schemes should look at his website [www.wetlandecosystems.com.au](http://www.wetlandecosystems.com.au) where comprehensive descriptions including species names and many of the images he showed us are displayed, including time-lapse sequences which show the progress of the projects.

## **Moorabool Roadside Reserves Excursion 5/10/03**

**Leader: Carol Hall**

Carol handed out carefully prepared excursion notes and a map before we departed for the area to the south east of Ballarat. From the edge of Ballarat, through Bungee and Millbrook we travelled over the basalt area which has weathered to produce fertile chocolate-coloured soils used for grazing and growing potatoes. Winter rains have filled the dams used for irrigation. The volcanic cones of Mounts Warrenheip and Buninyong and Black Hill near Gordon were clearly visible landmarks.

After crossing Black Creek on the Yendon-Mt. Egerton Road we stopped at the first of many, signed areas of Significant Roadside Vegetation. Among the Blackwood *Acacia melanoxylon*, Kangaroo Grass, *Themeda australis* was the dominant grass. Two species of tussock grass were compared, the grey, pubescent leaves of *Poa morrisii* were soft compared with the harsh leaves of *Poa sieberiana*. Bidgee-widgee *Acaena novae-zelandiae* had brighter green leaves and prostrate habit while the closely related Sheep's Burr *Acaena echinata* was duller green and produces an upright seed spike. Many bright turquoise blue beetles were crawling over one patch of Bidgee-widgee. One of the few plants in flower was the delicate Common Woodruff *Asperula conferta* with small white flowers. Leaves of onion orchid and sun orchid were seen. Weeds invading the grassland included Onion-grass *Romulea rosea* (some with white rather than pink flowers), several grasses and Spanish Heath *Erica lusitanica*. Nearby Swamp Gum *Eucalyptus ovata* grew with Blackwood.

An outcrop of Ordovician sediments forms a line of hills north of Mt Egerton. The gravelly soils support different flora. Messmate, Narrow-leaved Peppermint, Blackwood and Silver Wattle shelter a diverse understorey. Common Bird Orchid *Chiloglottis valida*, Nodding Greenhood *Pterostylis nutans*, Bulbine Lily *Bulbine*

*bulbosa*, Early Nancy *Wurmbea dioica*, Austral Indigo *Indigofera australis* and Common Appleberry *Billardiera scandens* were flowering. A Peppermint supported a Drooping Mistletoe *Ameyma pendula* which was hanging close to the ground. We had time to observe some birds - Brown Thornbill, Crimson Rosella, Brown and White-throated Treecreeper.

Morning tea was enjoyed under the shelter of Elspeth and Paul's veranda.

East of Mt. Egerton we travelled across more basalt plains with Mt Blackwood visible in the north-east. To the east of Moorabool East River were healthy, mature Manna Gums *Eucalyptus viminalis*. Much of these basalt plains were formerly grassy woodland of Swamp Gums and Blackwood. The old Swamp Gums are now declining but along the roadside Swamp Gums and Blackwoods are regenerating in areas which are not over burnt. Wood Duck with chicks were seen alongside a dam as we travelled.

We stopped at a grassland along Sth. Bungeeltap Rd. which is burnt annually to provide a firebreak. This management has resulted in a grassland of diverse herbaceous species without trees or shrubs. The clumps of Kangaroo Grass sheltered nests of small black ants. Early Nancy and Tiny Star *Hypoxis glabella* were flowering. Scarlet Sundew *Drosera glanduligera* with spoon-shaped, green leaves were more plentiful than Scented Sundew *Drosera whittakeri* whose leaves are reddish, and some plants bore large white flowers. A Copperhead quickly disappeared into a watery culvert and a hairy caterpillar was observed under a hand lens. Firebreaks, whether cultivated or sprayed, allowed weeds such as cape weed, thistles and pasture grasses to invade.

Crossing over the Moorabool East River we could see a thin cap of basalt over sedimentary rock. Several landslips were evident on the steep upper slopes. One Hemp Bush *Gynatrix pulchella* grew along the road. This species is dioecious, with male and female flowers on separate plants; our shrub had male flowers. The stems yield copious fine fibre which was used by Koories for string and bags.

Our lunch stop was at Hunt's Bridge picnic area alongside the Moorabool West River. The lunch break and a short walk provided a chance to watch the birds. Yellow Robin, White-plumed and White-naped Honeyeater, Kookaburra, White-throated and Brown Treecreeper, Superb Fairy Wren, White-browed Scrubwren, Black-faced Cuckoo-shrike, and Dusky Wood Swallow were seen. A large Koala rested in a Manna Gum beside the river. A sad event was the discovery of a hairless young Ringtail Possum. The animal was cold, barely breathing with little chance of surviving.

Further south we stopped on Angee's Road which traversed the linear Borhoneyghurk Common. We added several flowering plants to the day's list. Thin-leaf Wattle *Acacia aculeatissima*, Hedge Wattle *A. paradoxa*, Common Flat-pea *Platylobium obtusangulum*, Grey Parrot-pea *Dillwynia cinerascens*, Common Rice Flower *Pimelea humilis* and Trailing Goodenia *Goodenia lanata* were in bloom. Sun orchids, Common Fireweed *Senecio quadridentatus*, Narrow-leaf Bitter-pea *Daviesia leptophylla*, Matted

Bush-pea *Pultenaea pedunculata*, Chocolate Lily and Black-anther Flax-lily *Dianella revoluta* will soon add colour to the understorey.

A shower of rain sent us scurrying to the cars at the end of an excursion capably lead by Carol. Her research enabled us to keep to a tight schedule and find interesting remnants of flora which survive on roadsides.

John Gregurke.

## **Historical Background to the Excursion Area**

**Contributor: Lyndsay Fink**

When George Egerton started from Geelong in late 1859 to seek a sheep run, he could not foresee what would one day be in its boundaries. He called his run "Bungal" (meaning Bung Creek). There is little left of it today; on the West Moora-bool is the remains of a stone and clay furnace used to heat water for his sheep wash; all else is gone. Only the hills, one of them literally a hill of gold in one of Victoria's richest and longest-worked gold fields, and the township of Mt. Egerton, remain.

Nearby was "Ballark", of 17,000 acres taken up by John Wallace, a much-liked and respected man. Ballark means "a stream of water". A township, a district and an old extinct volcano Mt. Wallace are named after him, plus a street in Meredith. After John died his son Donald ran the property. He also bred racehorses: *Calma* won the 1888 Caulfield Cup, *Mentor* the 1888 Melbourne Cup and his best horse *Carbine* won the 1889 Melbourne Cup. After Donald died, his son Vivian died young and the property lay idle for 15 years until John Matheson Molesworth purchased it. The Molesworths still own it; it is now 3,000 acres.

Close by is John Norman McLeod's station taken up in 1838, "Borhoneyghurk", named after a native of the Barrabool tribe. It literally means "Borhoney's woman" and his station of 27,790 acres and next door "Moreep" (meaning "the centre of a tree") of 4,300 acres were eventually purchased by Hugh Morrisons. The mining township that grew up in the valley was called Morrisons. There is little left of the houses, shops, stores, pubs and churches today.

Also in this area was "Bungeeltap", Cowie and Stead's station, meaning "equal shares". It was later divided into Bungeel Tap and Emly Park.

## **October Meeting Points**

The President, Carol Hall, welcomed 50 people including Catherine King MHR, members of the Bedggood family and visitors. Apologies were received from David Vendy, Mayor of Ballarat; Margaret Smerdon, Irene Hooper, Bob Christie, Maureen Christie, Pat and Bill Murphy.

## Club Campout: Stuart Mill 26/9/03 - 28/9/03

Ten members arrived at the Bishop James Memorial Camp during the afternoon of Friday 26<sup>th</sup>, to be the first to occupy the new mudbrick sleeping quarters built as part of the camp's refurbishment. Claire and Peter Dalman and Chris Baulch had arrived earlier and spent time exploring St. Arnaud before settling in. A fire was laid in the spacious recreation hall and provided the focus for after-dinner conversation each night.

On Saturday morning the wind was bitter and gusty - apparently snow had fallen in the Ballarat area! After spotting a Diamond Firetail on the ground outside the kitchen, a group of us took a walk towards the cemetery, finding Bulbine Lilies, Golden Moth Orchids, Waxlips, Dwarf Greenhood and a sea of low-growing Gold-dust Wattle around the tombstones.

At 10am we met St. Arnaud FNC President Ann Hughes and member Deb who took us to find the Big Tree in the St. Arnaud Range (since October of last year now the St. Arnaud Nat. Pk., an upgrade and extension of the former Kara Kara State Park) with the help of annotations made by Greg Binns on his map from a previous visit to this Box-Ironbark region. Two big trees were found together - a big old Yellow Gum, and a most unusually tall Ironbark complete with a raptor's nest high in the sparse canopy.

We moved on to the Hard Hills Flora Reserve NE of St. Arnaud, an area of Mallee, growing not on the Ordovician gold-bearing sediments which characterise much of the area, but on Gravelly Sediments weathered in more recent geological times and acknowledged as a distinctive Ecological Vegetation Class in the Box-Ironbark Report. Blue Mallee *E. polybractea* is harvested here for eucalyptus oil and we passed the distillery, seeing large areas of gums which had been repeatedly harvested.

Ann brought us to an area which the local Field Nats. had been instrumental in getting fenced - and here were beautiful specimens of *Caladenia filamentosa*, a dark maroon spider orchid with exceptionally long filaments; a colour variant was also present, cream and maroon.

Further along we walked through a section of the mallee and saw a wonderful cross-section of this plant association. As well as large numbers of Waxlips and Early Nancies, highlights included Scarlet Mintbush *Prostanthera aspaloides*, Scarlet Sundew *Drosera glanduligera* - both typical of sandy gravelly situations - Rough Mintbush *P. denticulata*, Pink Heath, Eriostemon, Golden Pennants, Blue Squills, *Grevillea alpina*, the pale green form of *Correa glabra*, to name a few, and all set in a sea of Gold-dust Wattle. Emerging on the far side into the mallee harvesting area we appreciated the contrast: a monoculture with compacted soil open to raindrop splash and with the resulting lack of leaf litter and few ground cover plants. Some Eastern Grey 'roos were seen in the vicinity.

Keen eyes and ears identified a Peaceful Dove, Galahs, Spotted Pardalote, Yellow Thornbill, and a male Rufous Whistler.

After a late lunch Ann and Deb farewelled us; the party split up (unintentionally!) and some of us went to look at Bell Rock, an outcrop of non-auriferous quartz reef surrounded by diggings where gold and silver were discovered in 1857 - and a lovely display of Sticky Boronia (tho' its scent is not so lovely). Meanwhile the Binns checked out the Wax Garden Flora Reserve.

A quick look at Teddington Reservoirs revealed one empty storage and the other at a very low level. New wattles were colonising the exposed sides of the storage and even Running Postman had gained a foothold. A few Coots, Hoary-headed Grebes and Shovelers were seen.

Sunday morning dawned frosty, sunny and calm; the mudbrick had maintained a very even temperature overnight and only by sticking one's nose outside and then noticing there was a sparkle of frost on the fences did we realise the temperature had fallen in the early hours. Thanks to conversations by members with the owners of a local B&B/café we were taken to a 70 acre property 4km out of Stuart Mill which was purchased 2 years previously and will be fenced to preserve the native flora. We saw (again!) large numbers of Waxlips; there was Flame Heath, *Hibbertia* sp., *Grevillea alpina*, Scented Sundew and Running Postman. Two huge eagle nests were spotted. A number of intricately weathered tree stumps aroused members' interest, and an old bent Red Stringybark gave character to the surrounds. Over the road a timbered area of stringybarks provided habitat for Brown Treecreepers.

Having packed up we adjourned to the Wax Garden Flora Reserve for lunch and were most impressed by the spread of Rosy Baeckea. The reserve is named for the Fairy Waxflower *Philotheca verrucosa* but there is little of it left here. Instead we were treated to a sea of pink, amongst which were Rabbits' Ears, Leopard Orchids, Goldfields Grevillea, Red Stringybark and Grey Box, Prickly Hibbertia and a lone specimen of *Tetralochea*.

We dispersed, to make our own way back to Ballarat. The ten members had experienced a wonderful spring wildflower display, met interesting local people and enjoyed each other's company. Many thanks to Greg Binns who had arranged the accommodation, liaising with the Bendigo Anglican Diocese.

**NB** Stuart Mill is named for the philosopher John Stuart Mill. At the peak of its goldmining boom there was a population of 7000.

St. Arnaud recognises the name of the commander of French forces in the Crimea, Marshal Jacques Le Roy de St. Arnaud.

Editor.

# Calendar

## November

- Fri. 7 Dr. Alan Ford: *Sustainable Living*.  
 Sat. 8 Boden's Water Race Walking Trails—opening 2 pm State Forest Road, Ross Creek (1.5 kms from Wades Lane intersection). Info 5342 0727.  
 Sun. 9 Excursion to Linton: Peter Thompson's block and TFN block.  
 Tues. 25 Committee Meeting @ Fran's 10A Ferguson Court 7.30 pm

## December

- Fri. 5 Dr. Chris Williams *Importance of Conservation on Private Land*.  
 Sun. 7 Excursion: Eynesbury; Leader John Gregurke. **DEPART 8.30 am**  
 Sat. 13 BBQ Lunch at Lyndsay's, 4/110 Cooke St, Ballarat. 12 noon BYO everything.

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### Supper Duty:

**November:** Genny Binns

**December:** Volunteers required.

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### Committee

|                             |                   |              |
|-----------------------------|-------------------|--------------|
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| <b>Vice-President</b> ..... | Mr. Greg Binns    | 03 5333 2282 |
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**Website:** [www.ballarat.yourguide.com.au](http://www.ballarat.yourguide.com.au) Click on *Local Info*. Search *Environment*.

**Meetings** are held at the Ballarat Horticultural Centre, cnr. Gregory & Gillies Sts (VicRoads 254 F8) on the first Friday of the month at 7.30pm.

**Excursions:** Depart from Ballarat Market Place (formerly Creswick Plaza) Creswick Rd., Ballarat (VicRoads 255 M10) at 9.30 am unless otherwise specified.

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